Acknowledgments

This brochure was written and designed by John Lewis, a Senior Forecaster, and John Robinson, the Warning Coordination Meteorologist (WCM)...both of the National Weather Service (NWS) in Little Rock.

All graphics and photos were contributed by employees at the NWS in Little Rock except where noted.

On the cover: Do you know when severe storms are approaching your area? Does bad weather tend to catch you off-guard? You might not be as weather aware as you think. For more information, go to pages 6-9.

Cover photo: The photo illustrates a lack of weather awareness. In reality, the woman reading the book was not present when the picture was taken. The woman is Amie Browne, a Meteorological Intern at the National Weather Service in Little Rock, Arkansas. The tornado photo is courtesy of Jerry Roberson. The tornado occurred on January 17, 1999 near Oil Trough, Arkansas.

Straight-line winds - Generally, any wind that is not associated with rotation; used mainly to differentiate thunderstorm winds from tornadic winds. Straight-line winds originate as a downdraft of rain-cooled air, which reaches the ground and spreads out rapidly, producing a potentially damaging gust of wind up to 100 mph. In recent years, there have been several occasions on which winds greater than 100 mph have been measured.

Suction vortex - A small but very intense vortex within a tornado circulation. Several suction vortices typically are present in a multiple-vortex tornado. Much of the extreme damage associated with violent tornadoes is attributed to suction vortices.

Supercell - A relatively long-lived thunderstorm with a persistent rotating updraft. Supercells are rare, but are responsible for a remarkably high percentage of severe weather events - especially tornadoes, extremely large hail, and damaging wind storms.

Tornado - A violently rotating column of air in contact with the ground.

Towering cumulus - A large cumulus cloud with great vertical development, usually with a cauliflower-like appearance, but lacking the characteristic anvil of a cumulonimbus cloud.

Updraft - A small-scale current of rising air. If the air is sufficiently moist, then the moisture condenses to become a cumulus cloud or an individual tower of a towering cumulus or a cumulonimbus.

Upslope flow - Air that flows toward higher terrain, and hence is forced to rise.

Virga - Streaks or wisps of precipitation falling from a cloud but evaporating before reaching the ground.

Wall cloud - A local, often abrupt lowering from the rain-free base of a thunderstorm. Wall clouds can range from a fraction of a mile up to nearly 5 miles in diameter, and normally are found on the south or southwest side of the thunderstorm. When seen from within several miles, many wall clouds exhibit rapid upward motion and counterclockwise rotation. Rotating wall clouds usually develop before strong or violent tornadoes, by anywhere from a few minutes up to nearly an hour. Wall clouds must be monitored visually for signs of persistent, sustained rotation.

Waterspout - In general, a tornado occurring over water. Specifically, it normally refers to a small, relatively weak rotating column of air over water beneath a cumulonimbus cloud or a towering cumulus cloud. (Waterspouts are most frequently observed in shallow waters off the coasts of Texas and Florida. However, they have occurred in Arkansas on some of the larger lakes, and on a few occasions, in the Arkansas River.)

(The terms in this glossary were taken from several National Weather Service publications. This is not an all-inclusive list of all terms associated with severe weather. The terms here were selected because they are the most frequently used in Arkansas -- in weather summaries; and in interviews with the news media.)